

=> s (477/174,175,166,180)/cclst or 74/335/ccls

179 477/174/CCLST
189 477/175/CCLST
185 477/166/CCLST
171 477/180/CCLST
645 (477/174,175,166,180)/CCLST
((477/174 OR 477/175 OR 477/166 OR 477/180)/CCLST)
737 74/335/CCLS
L1 1380 (477/174,175,166,180)/CCLST OR 74/335/CCLS

=> s l1 and (idle (2a) torque)

49820 IDLE
130744 TORQUE
206 IDLE (2A) TORQUE
L2 2 L1 AND (IDLE (2A) TORQUE)

=> d 1- kwic

US PAT NO: 4,018,316 [IMAGE AVAILABLE] L2: 1 of 2
US-CL-CURRENT: 192/3.3; 60/39.163, 39.24; 192/113.36; 477/30, 168,
180

SUMMARY:

BSUM(5)

The . . . to completely unload the engine except for the engine driven accessory load to provide the normal high speed low accessory **torque** engine **idle** operation for optimum economy and high idle speed drive of the engine and vehicle accessories. When the gear unit is. . . To effect this low idle speed control, the fluid coupling stall torque increases quite steeply relative to the decreasing engine **idle torque** in the low idle speed range. At the selected mean low idle speed, the sum of the coupling stall torque at that speed plus the normal vehicle accessory load equals the engine **idle torque**. When accessory torque load is increased, reducing speed decreases coupling stall torque and increases engine **idle torque** to provide the increased accessory torque with minimal speed change. When accessory torque load is reduced, increasing speed increases coupling stall torque and reduces engine **idle torque**. Thus the system is auto regulating to provide a substantially constant regulated or governed low idle speed.

DETDESC:

DETD(7)

The . . . TQ at N1 = 100%. The lower torque curves are at lower percents of maximum compressor speed, such as the **idle torque** curve 55 at 55% of maximum compressor speed provided at the idle fuel feed position of throttle lever or pedal. . .

DETDESC:

DETD(9)

BEST AVAILABLE COPY

The . . . point A on the stall torque curve, e.g., about 800 rpm, the sum of vehicle accessory torque plus coupling stall torque equals engine idle torque, curve 55. This relationship may also be stated as the net engine input torque to the transmission at this low idle speed, the engine output torque at idle, idle TQ curve 55, minus the vehicle accessory torque load, equals coupling stall torque at this low idle speed, point A. . . speed at normal or mean vehicle accessory torque load which is a curve not shown parallel to and below engine idle torque curve 55 at point A with a sufficient difference in the rate of change of the functions, curve slope, to. . .

DETDESC:

DETD(47)

The . . . is proportional to throttle advance or displacement TD. These torque and power curves are plotted relative to engine output speed. Idle torque and power are at a predetermined gasifier speed, e.g., 55% curves 55, FIG. 3. The characteristic relation in this engine. . . discharge pressure relative to percent gasifier speed are shown respectively by curve TD and curve CDP in FIG. 4. The idle torque is sufficient to drive the vehicle accessories at a mid range engine output speed, e.g., about 1,600 rpm, the no. . .

DETDESC:

DETD(61)

The . . . torque load at low idle speed, but with respect to the starting drive operation for increasing torque from the low torque at low idle speed to a high or maximum engine torque the coupling torque increase is small and at a low rate relative. . .

CLAIMS:

CLMS(1)

It . . .

input member adapted to be driven by an engine and having net input torque from a high idle speed low idle input torque, through a low idle speed high idle input torque to a maximum high input torque in a starting high input torque low input speed range and then reduced input. . . output member is stationary to stall said fluid drive means; said fluid drive means having a low idle speed high idle torque capacity at zero speed ratio stall increasing at a greater rate with input member speed than input member idle torque to reduce input member idle speed from said high idle speed and regulate said input member speed at said low. . . torque capacity in said starting high torque low input speed range and maximum torque capacity about equal to said low idle speed high torque capacity at maximum input speed; and said clutch means including clutch control means operative in response to manual control, when. . . from zero speed ratio stall to said high speed ratio drive and progressively reducing torque capacity from substantially said high idle torque capacity to zero torque capacity before lock-up for a starting drive of said load member from stall to a lock-up. . .

CLAIMS:

CLMS(2)

2. . . . toric section diameter greater than seven to 1 and a stall torque capacity equal to said low idle speed high idle input torque at said low idle speed and said stall torque capacity at said

BEST AVAILABLE COPY

low idle speed increasing at a very low rate slightly greater than the rate of increase of said high **idle** input **torque** to regulate **idle** speed at said low **idle** speed for smooth starting drive.

CLAIMS:

CLMS(4)

4. . . . engaging said clutch means at said fluid drive means stall torque capacities only slightly above said low idle speed high **idle torque** capacity and said fluid drive means being responsive to progressively increasing clutch capacity drive to conjointly substantially inversely progressively reduce. . . . clutch means on meeting load torque requirements and reducing said fluid drive means torque capacity from low idle speed high **idle torque** capacity to zero torque capacity at input speeds not materially above said low idle speed for a smooth starting drive.

CLAIMS:

CLMS(12)

12. . . . an input member for drive connecting to an engine and having net input torque from a high idle speed low **idle torque** through a low idle speed high **idle torque** to a maximum input torque in a starting high torque low input speed range including low idle speed and then. . . . and at maximum input speed increases to a low torque capacity relative to said maximum drive torque and nearer said **idle** speed low **torque** at maximum speed and a low fluid drive stall torque capacity at zero speed ratio stall at said low idle speed of said input member equal to high **idle** input **torque** and increasing at a low rate greater than input member **idle torque** rate of change with speed to, when said clutch means is disengaged and said drive connecting means connecting said load. . . . from stall to said maximum speed ratio drive and reduce said fluid drive means torque capacity from substantially said high **idle torque** capacity at low idle speed progressively to zero in the same period as said friction clutch means progressively increases said. . . .

CLAIMS:

CLMS(13)

13. . . . an input member for drive connecting to an engine and having net input torque from a high idle speed low **idle torque** through a low idle speed high **idle torque** to a maximum input torque in a starting high torque low input speed range including low idle speed and then. . . . torque capacity increasing with said input member speed at a higher rate than the rate of change of input member **idle torque** with input member speed and equaling said net input member drive torque at said low idle speed to reduce input. . . . at stall when said fluid drive means has a low stall torque capacity not materially above said fluid drive low **idle** stall **torque** capacity and substantially at said low idle input speed to smooth the initial engagement, to gradually increase engagement to reduce. . . . speed ratio from stall to said maximum speed ratio drive and reduce fluid drive torque capacity from substantially said low **idle torque** capacity to zero capacity conjointly as said friction clutch means progressively increases clutch torque capacity from substantially zero to lock. . . .

US PAT NO: 3,752,277 [IMAGE AVAILABLE] L2: 2 of 2
US-CL-CURRENT: 192/56.1; 173/178; 192/44, 45; 477/174

SUMMARY:

BEST AVAILABLE COPY

BSUM(1)

This . . . clutch adapted to clutch the rotary shaft up to a predetermined small torque but to cause said rotary shaft to **idle** if said **torque** is exceeded when the direction of the rotation of the rotary shaft is altered.

=> s l1 and idle

49820 IDLE
L3 104 L1 AND IDLE

=> s l3 and (clutch (p) control?)

65036 CLUTCH
1405360 CONTROL?
31271 CLUTCH (P) CONTROL?
L4 96 L3 AND (CLUTCH (P) CONTROL?)

BEST AVAILABLE COPY